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Government
Publications

A PILOT SURVEY OF
TRAFFIC AND PARKING
AT APARTMENTS

Conducted For:

The Metropolitan Toronto Planning Board,
City Hall,
Toronto, Ontario.

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Estimates of Sampling Variability

Copy of Questionnaire

Map

A PILOT SURVEY OF
TRAFFIC AND PARKING AT APARTMENTS

I Purpose ...

The purpose of the initial phase of the apartment survey was twofold:

1. Inventory of Apartments:

An inventory of each of the approximately 600 apartment buildings completed in Metropolitan Toronto between May, 1961 and April, 1967 was undertaken to provide information on the size of each building (by number of storeys and types of units), rental ranges, total parking provided and rented by indoor or outdoor and by tenant or outsider, and also visitor parking regulations.

I Purpose ...

2. A Pilot Tenant Survey:

The main study will be an almost complete census of buildings; certainly of the largest buildings which probably contain 70 - 80% of the total number of suites. This will eliminate any appreciable sampling variability due to the sampling of buildings, leaving only sampling variability within buildings. The pilot survey was designed to measure only this latter component of the eventual sampling variability of the main study. The two purposes of this tenant survey were:

(a) To prepare estimates of sampling variability which will be used to establish an efficient sample design, including sample size and the degree of disproportionate sampling required.

(b) To prepare usable estimates such as:

- apartment unit profile of number of people in the household, employment, total income, number of vehicles, parking arrangements, parking costs, apartment rental charges.
- visitor parking information from previous weekend including number of vehicles attracted and parking arrangements for these vehicles.
- trip generation and attraction in the morning and afternoon peak hours.

II Methodology ...

1. Inventory of Apartment Buildings:

The Metropolitan Toronto Planning Board provided a list of apartment buildings completed by borough by year from May, 1961 through April, 1967. Each of these buildings was listed on an interview recording sheet. The Urban Development Institute provided a list of its members for our use; however, the majority of owners were not members.

The municipal offices for the City of Toronto and each of the boroughs were visited and the assessment rolls searched to obtain the owners of these buildings, who were then contacted personally in order to complete the interview. The superintendent of the building was contacted in the event that the owner could not be traced.

In each case, a letter explaining the purpose and scope of the survey preceded our interviewer. Members of the Urban Development Institute (U.D.I.) received a letter from Mr. Jules Hansen of Meridian Property Management and non-U.D.I. members, a letter from the Metropolitan Toronto Planning Board. These letters were directly responsible for the kind co-operation received from most of the owners.

2. Pilot Tenant Survey:

Dr. I.P. Fellegi, Statistical Consulting Services, Ottawa, Ontario, outlined the rationale behind the sampling design for the pilot survey:

> "... the stratification of the sample (either for the main study or for the pilot) by type of suite would lead to unnecessary complications of weighting since the suites are second-stage sampling units (buildings are first-stage units). One can achieve most of the gains of stratification without any of its complications by selecting a systematic sample of suites in each building from the list of suites arranged by the number of bedrooms. The stratification of the buildings, however, is easily carried out, hence they should be stratified by geography (distance from downtown) and distance from rapid transit."

To this end, the 242 buildings with 100 or more suites were placed in one of three geographical areas, termed "Subway", "Central", and "Suburban".

2. Pilot Tenant Survey (Continued):

These areas are defined as follows:

(a) Subway:

Includes those buildings in census tracts which border the rapid transit system.

(b) Central:

All buildings within an area defined by the Humber River on the west, Highway 401 on the north and Victoria Park Avenue on the east excluding those in the subway area.

(c) Suburban:

All buildings outside the Central region.

Within each geographical area, the buildings were ordered by ascending number of suites. A sampling fraction was calculated to yield a random selection of 20 buildings from the arranged list of 43,492 apartment suites.

Within each selected building, the suites were arranged by type, i.e. all the bachelor suites in the building, then all the one bedroom suites, etc. Two samples of six suites were selected in each building to provide an initial sample of 240 apartment units. It was estimated that this sample would yield 200 completed interviews after attrition.

2. Pilot Tenant Survey (Continued):

The comparison of sample 1 to sample 2 provides estimates of sampling variability within buildings while in combination, they provide usable estimates for the total sample.

The final yield was 183 completed questionnaires (76.3% of frame). The following table shows the attrition encountered.

Table 1. - Attrition

Total Sample	240 100%
Completed	76.3
No answer	5.0
Not home	8.7
Refusal	9.2
Moved	0.8

Up to ten call-backs were made for the telephone "no answers" and three personal call-backs for not-at-home tenants who had no telephone listing.

2. Pilot Tenant Survey (Continued):

The data on sample 1 and sample 2 is being forwarded to Dr. Felligi in Ottawa who will prepare the estimates of sampling variability for the main study (See Appendix I). A subsequent report will document the sample design for the main study.

This report is concerned with the preparation of useful estimates from a probability sample of buildings of 100 suites or more. Appropriate weighting of responses has been completed in order to provide a probability sample. As documented above, twelve suites were selected from each building regardless of the total number of suites in the building. For this report, responses in each building have been weighted according to the number of suites in the building.

III Summary of Results ...

1. Inventory of Apartments:

To date, complete information has been obtained for 451 apartment buildings; a further 50 are as complete as possible. Considerable time and expense have been expended in an attempt to obtain the data for the final 100 buildings. We recommend that no further survey work be undertaken to complete this building inventory. The distribution, by type of suite in these buildings should be obtained from municipal records in order to provide the necessary information for the sample design for the major survey.

Table T-44 indicates that tenant parking requirements vary not only by geographical area but also by building size within a geographical area.

In the "Subway" region, 85% of the buildings of 75 suites or less require 100% or less tenant parking. Correspondingly 85% of the buildings of 200 suites or more require 70% or less tenant parking.

This pattern is not as pronounced in the "Central" and "Suburban" regions; however, tenant parking requirements for all buildings are considerably higher. In the "Central" and "Suburban" regions, 85% of the buildings could accommodate all tenant parking with 115% or less.

2. Pilot Tenant Survey.

(i) Tenant Parking:

The average number of vehicles owned per unit varies from a low of 0.73 in the "Subway" area to 0.79 and 0.96 in the "Central" and "Suburban" areas respectively. (Table T-13)

The average number of vehicles per unit increases as the apartment unit becomes larger; 0.46 for bachelor suites, 0.70, 0.97 and 1.21 for one, two and three or larger bedroom apartments respectively. The same increasing pattern is seen as the number of people in the household increases and as the number of people working full time increases. (Table T-18-20.)

The tenants surveyed, who owned or leased cars, without exception parked their cars on the apartment premises when they were not in use. Almost all (98.7%) of the vehicles of those living in the "Subway" area parked their cars inside while the corresponding figure for the "Suburban" area was just over half (51.7%). (Table T-23)

Everyone in the "Subway" area who parks inside pays $10.00 or more per month, while only two-thirds of those inside the "Suburban" area pay that much. (Table T-24)

Just over nine in ten (93.9%) overall pay $5.00 per month or less for outdoor parking. (Table T-25)

2. Pilot Tenant Survey (Continued):

(ii) Visitor Parking:

The heaviest demand for visitor parking during the weekend peak (expressed as a percentage of apartment units) was 14.6% for the "Subway" area and 16.0% and 13.7% respectively for the "Central" and "Suburban" areas. If all of the visitors before 6:00 p.m. on Saturday or Sunday had required parking at the same time, which is rather unlikely, the "Central" area would have had a maximum requirement of 17.3%. (Table T-30) Although in the "Subway" area there is ample visitor parking provided to accommodate this demand, only 27.2% of visitors' cars were parked on the premises. (Table T-30A)

This indicates that the visitor parking "problem" for high density developments near subways, is one of communication of the availability of visitor parking to tenants and their guests. Indeed in this area if crowding occurs it probably comes from the surrounding neighborhood not the large apartments.

In the "Central" and "Suburban" areas the use of facilities by tenants may lead to problems with the present 125% parking requirement.

2. Pilot Tenant Survey (Continued):

(iii) Morning Peak (7:00 a.m. to 9:00 a.m.) Generation and Attraction:

More than four trips in ten (41.8%) which were generated during the a.m. peak in the "Suburban" region occurred before 8:00 a.m. The corresponding figures for the "Central" and "Subway" areas are 39.5% and 33 9%. (Table T-31)

More than half (55.4%) of the a.m. generated trips in the "Subway" area used public transportation. This decreases steadily through 36.6% for the "Central" area to a low of 28.6% for the "Suburban" area. Almost half (47.2%) of the "Suburban" trips were as automobile drivers. (Table T-32)

A total of 546 morning peak trips were generated, an average of 1.33 trips per household. This represents an average of 1.43 in the "Subway" area, 1.21 in the "Central" and 1.36 in the "Suburban" region. (Table T-33)

There were only 19 morning peak trips attracted to the sample households. (Table T-36)

2. Pilot Tenant Survey (Continued):

(iv) Afternoon Peak (4:00 p.m. to 6:00 p.m.) Attraction and Generation:

Almost one-quarter (24.4%) of the trips attracted during the afternoon peak in the "Suburban" area occurred before 4:30 p.m. compared to only 8.8% in the "Subway" area. Correspondingly more than half of the trips attracted during this period to the "Subway" area occurred after 5:30 p.m. compared to 40.9% and 40.4% respectively in the "Central" and "Suburban" areas. (Table T-37)

Again, the mode of transportation most used for trips attracted to the "Subway" area was public transportation (48.7% of trips) compared to 41.3% to the "Central" region and only 27.7% to the "Suburban" area. (Table T-38)

A total of 488 afternoon peak trips were attracted, an average of 1.18 trips per household. Geographically, the averages were 1.16, 1.14 and 1.25 for the "Subway", "Central" and "Suburban" areas respectively. (Table T-39)

Of the 60 afternoon peak generated trips, more than half (53.4%) were generated from the "Subway" area. Two-thirds of these occurred between 5:00 p.m. and 6:00 p.m. and more than half (52.8%) of them were as automobile drivers.

2. Pilot Tenant Survey (Continued):

(v) Tenant Profile:

Almost eight suites in ten (77.6%) in the "Subway" area are bachelor or one bedroom. This compares to less than one-third (32.2%) in the "Suburban" area. (Table T-1)

The average number of people per suite is also considerably less in the "Subway" area compared to the "Suburban" area (1.90 to 2.88). (Table T-2)

The average number of females over eighteen per suite in the "Subway" area is 1.01 compared to only 0.82 for males over eighteen. This disparity exists only in this area. (Tables T-3,4.)

The average number of children under eighteen in the household is extremely low in the "Subway" area (0.08) and increases through the "Central" area (0.41) to a high in the "Suburban" area (0.74). (Table T-5)

The highest average number of people per suite working full time occurs for the "Subway" area, 1.70, compared to only 1.25 in the "Central" area and 1.53 in the "Suburban" area. (Table T-9)

III Summary of Results ...

2. Pilot Tenant Survey.

(v) Tenant Profile (Continued):

More than nine of every ten (90.1%) apartment units surveyed were occupied by families; however, more than one-quarter (26.6%) of the suites in the "Subway" area were shared accommodation. (Table T-11)

The median total family income was over $8,000 for all households. (Table T-12)

The average monthly suite rental is $151.00 for all units and is slightly higher for the "Subway" area at $153.00, compared to $151.00 in the "Central" area and $148.00 in the "Suburban" area. (Table T-26)

The average monthly suite rental for shared accommodation is $177.00 compared to $148.00 for family units. (Table T-28)

IV Recommendations

1. Within the limitations of our sample size, the data obtained indicate direction, if not exact magnitude. it would appear that differences exist in the average number of vehicles per unit as one moves through geographical areas, i.e. 0.73 in the "Subway" area and 0.96 in the "Suburban" area. The tenant parking requirements, shown in Table 44 substantiate these data.

   Visitor parking requirements reached a maximum 14.6% in the "Subway" area. Although there is ample visitor parking facilities provided to accommodate this demand, only 27.2% of the visitors' cars were parked on the building premises. This indicates that the visitor parking "problem" for those buildings in the "Subway" region is one of communication rather than availability. Visitor parking availability should be communicated to tenants and marked clearly for visitors.

IV Recommendations ...

Since the number of vehicles per unit increases as the size of the suite increases, (0.46 for bachelor suites to 1.21 for three or more bedroom suites), one possibility might be to set parking requirements on an individual building basis according to the distribution of suites within the proposed building. Again the data, because of sample size limitations are probably unstable, but they do indicate that bachelor and one bedroom apartments have a lower average number of vehicles than larger apartment units. The major study will clarify this point.

2. A total of 546 morning peak generated trips were recorded; however, only 488 afternoon peak trips were attracted. A more even balance might be obtained by defining the peak hours as 7:00 a.m. to 9:30 a.m. and 4:00 p.m. to 6:30 p.m.

3. The following change is recommended in the tenant survey: The times of arrivals and departures for visitors should be obtained for those who arrived and departed by car and required visitor parking facilities. This will enable tabulation of visitor parking requirements exactly by time.

DETAILED TABLES

(Totals may not add to 100% due

to truncation of data by the computer program)

1. First, what type of apartment is this?

TYPE OF SUITE

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
Bachelor	8.2	19.2	5.6	1.2
One Bedroom	43.8	58.4	43.6	31.0
Two Bedroom	40.7	21.4	43.0	55.2
Three Bedrooms or Larger	7.4	0.9	7.8	12.6

2.(a) How many people, including yourself, live in your household?

NUMBER OF PEOPLE IN THE HOUSEHOLD

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
One	18.1	29.2	20.8	5.2
Two	43.8	55.7	42.4	34.6
Three	23.2	10.6	22.6	35.2
Four	11.8	4.5	10.8	19.3
Five	2.5	-	3.3	3.7
Six	0.7	-	-	2.0
Average	2.39	1.90	2.33	2.88

2.(b) How many are males 18 or over?

NUMBER OF MALES
EIGHTEEN YEARS OR OVER IN THE HOUSEHOLD

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
None	19.2	39.8	15.4	5.1
One	69.4	47.2	72.8	85.4
Two	9.5	6.5	11.8	9.6
Three	1.3	4.2	-	-
Four	0.7	2.3	-	-
Average	0.95	0.82	0.96	1.05

2.(b) How many are females 18 or over?

NUMBER OF FEMALES
EIGHTEEN YEARS OR OVER IN THE HOUSEHOLD

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
None	15.3	28.8	13.0	5.8
One	71.9	50.5	78.1	84.2
Two	9.4	13.5	8.9	6.2
Three	3.0	5.8	-	3.8
Four	0.4	1.4	-	-
Average	1.01	1.01	0.96	1.08

2.(b) How many are under 6? 6 to 13? 13 to 17?

NUMBER OF CHILDREN

UNDER EIGHTEEN YEARS IN THE HOUSEHOLD

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
None	65.0	92.0	63.8	42.1
One	28.3	8.0	31.2	43.2
Two	6.3	-	5.0	13.5
Three or more	0.4	-	-	1.2
Average	0.42	0.08	0.41	0.74

2.(b) How many are children under 6?

NUMBER OF CHILDREN
UNDER SIX YEARS IN THE HOUSEHOLD

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
None	83.4	100.0	84.8	67.1
One	13.1	-	11.8	26.3
Two	3.4	-	3.3	6.6
Average	0.20	-	0.18	0.40

2.(b) How many are children 6 to 13?

NUMBER OF CHILDREN
SIX TO THIRTEEN YEARS IN THE HOUSEHOLD

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 suites or More)	412 100%	123 100%	150 100%	138 100%
None	90.9	98.6	90.4	84.6
One	6.4	1.4	9.6	7.3
Two	2.3	-	-	6.9
Three or more	0.4	-	-	1.2
Average	0.12	0.01	0.10	0.25

2.(b) How many children 14 to 17?

NUMBER OF CHILDREN
FOURTEEN TO SEVENTEEN YEARS IN THE HOUSEHOLD

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
None	90.6	93.4	88.6	90.4
One	8.8	6.6	9.8	9.6
Two	0.6	-	1.7	-
Average	0.10	0.07	0.13	0.10

2.(c) In total how many persons are working full time?

NUMBER OF PEOPLE IN HOUSEHOLD WORKING FULL TIME

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
None	9.9	3.7	20.4	4.0
One	41.4	40.5	37.6	46.3
Two	41.1	42.0	38.7	42.8
Three	6.5	10.1	3.3	6.9
Four	1.1	3.7	-	-
Average	1.48	1.70	1.25	1.53

2.(c) In total how many persons are working part time?

NUMBER OF PEOPLE IN HOUSEHOLD WORKING PART TIME

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
None	93.5	98.2	91.5	91.4
One	6.5	1.8	8.5	8.6

2.(d) Is this shared accommodation or are you all one family?

TYPE OF ACCOMMODATION

SHARED VERSUS FAMILY UNIT

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
Shared	9.9	26.6	4.2	1.2
Family	90. 1	73.4	95.8	98.8

2.(e) Now considering all working members of this household would the total income of this apartment be:

TOTAL INCOME OF HOUSEHOLD

	TOTAL	Subway	Central	Suburban
	412	123	150	138
ALL RESPONDENTS	100%	100%	100%	100%
(Buildings of 100 Suites or More)				
Under $4,000	2.9	-	5.9	2.2
$4,000 to $5,999	11.1	16.3	8.8	9.0
$6,000 to $7,999	15.3	22.6	14.4	9.8
$8,000 to $9,999	13.3*	14.3*	7.4*	18.8*
$10,000 to $11,999	13.9	14.2	18.2	8.8
$12,000 to $13,999	4.9	5.6	4.7	4.4
$14,000 or more	7.5	9.1	6.9	6.9
Over $8,000 (Refused to specify)	9.5	7.5	14.8	5.4
Under $8,000 (Refused to specify)	12.0	4.1	8.6	22.7
Refused	9.7	6.2	10.3	12.0

*Median income group.

3. How many vehicles (including both cars and trucks) are owned or leased and driven by members of your household?

NUMBER OF VEHICLES OWNED OR LEASED AND DRIVEN BY HOUSEHOLD MEMBERS

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
None	25.9	36.9	28.0	14.0
One	65.8	55.9	65.0	75.6
Two	7.5	5.0	7.0	10.4
Three	0.7	2.3	-	-
Average	0.83	0.73	0.79	0.96

NUMBER OF PEOPLE IN THE HOUSEHOLD

BY TYPE OF SUITE

	TOTAL	Number of People in the Household			
		One	Two	Three	Four or More
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	74 100%	180 100%	95 100%	59 100%
Type of Suite:					
Bachelor	8.2	35.7	4.0	-	-
One Bedroom	43.8	49.7	64.4	26.7	1.7
Two Bedroom	40.7	14.6	31.0	70.1	56.0
Three Bedroom or Larger	7.4	-	0.6	3.1	42.3

SHARED OR FAMILY UNIT ACCOMMODATION

BY TYPE OF SUITE

	TOTAL	Type of Accommodation	
		Shared	Family Unit
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	40 100%	371 100%
Type of Suite:			
Bachelor	8.2	-	9.1
One Bedroom	43.8	51.2	42.9
Two Bedroom	40.7	42.6	40.4
Three Bedroom or Larger	7.4	6.1	7.5

NUMBER OF PEOPLE WORKING FULL TIME

BY TOTAL INCOME OF HOUSEHOLD

		Number of People Working Full Time			
	TOTAL	None	One	Two	Three or More
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	40 100%	170 100%	169 100%	30 100%
Total Income of Household:					
Under $4,000	2.9	24.7*	1.1	-	-
$4,000 - $5,999	11.1	6.8	14.9	10.4	-
$6,000 - $7,999	15.3	9.3	22.3*	11.1	7.7
$8,000 - $9,999	13.3*	-	18.1	12.8	7.7
$10,000 - $11,999	13.9	-	6.7	23.4*	23.1*
$12,000 - $13,999	4.9	-	4.2	6.7	3.8
$14,000 and Over	7.5	5.4	4.9	8.8	15.4
Over $8,000 (Refused to Specify)	9.5	7.8	5.2	12.6	15.4
Under $8,000 (Refused to Specify)	12.0	13.4	13.9	9.0	19.2
Refused	9.7	32.5	8.7	5.2	7.7

*Median income group.

NUMBER OF PEOPLE WORKING PART TIME

BY TOTAL INCOME OF HOUSEHOLD

	TOTAL	Number Working Part Time None	One
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	385 100%	26 100%
Total Income of Household:			
Under $4,000	2.9	2.8	5.2
$4,000 - $5,999	11.1	10.8	16.4
$6,000 - $7,999	15.3	15.7	9.3
$8,000 - $9,999	13.3	13.7	7.1
$10,000 - $11,999	13.9	14.0	11.9
$12,000 - $13,999	4.9	4.6	9.3
$14,000 and Over	7.5	8.1	-
Over $8,000 (Refused to Specify)	9.5	9.3	11.9
Under $8,000 (Refused to Specify)	12.0	10.8	29.0
Refused	9.7	10.3	-

DISTRIBUTION OF THE NUMBER OF VEHICLES OWNED OR LEASED BY TYPE OF SUITE

	TOTAL	Type of Suite			
		Bachelor	One Bedroom	Two Bedroom	Three Bedroom or Larger
ALL RESPONDENTS	412 100%	33 100%	180 100%	167 100%	30 100%
(Buildings of 100 Suites or More)					
Number of Vehicles:					
None	25.9	53.8	32.2	17.7	3.6
One	65.8	46.2	65.9	68.7	72.0
Two	7.5	-	2.0	12.0	24.3
Three	0.7	-	-	1.7	-
Average Number of Vehicles	0.82	0.46	0.70	0.97	1.21

DISTRIBUTION OF THE NUMBER OF VEHICLES OWNED OR LEASED BY THE NUMBER OF PEOPLE IN THE HOUSEHOLD

	TOTAL	Number of People in the Household			
		One	Two	Three	Four or More
ALL RESPONDENTS	412 100%	74 100%	180 100%	95 100%	60 100%
(Buildings of 100 Suites or More)					
Number of Vehicles:					
None	25.9	45.5	27.5	15.2	12.3
One	65.8	51.5	69.0	65.8	77.2
Two	7.5	3.0	3.5	19.0	7.0
Three	0.7	-	-	-	3.5
Average Number of Vehicles	0.82	0.57	0.76	1.04	1.02

DISTRIBUTION OF THE NUMBER OF VEHICLES OWNED OR LEASED BY THE NUMBER OF PEOPLE WORKING FULL TIME

	TOTAL	Number of People Working Full Time			
		None	One	Two	Three or More
ALL RESPONDENTS	412 100%	40 100%	170 100%	169 100%	30 100%
(Buildings of 100 Suites or More)					
Number of Vehicles:					
None	25.9	54.5	24.2	20.9	24.4
One	65.8	45.5	71.5	71.2	34.4
Two	7.5	-	4.3	7.9	34.4
Three	0.7	-	-	-	6.8
Average Number of Vehicles	0.82	0.46	0.80	0.87	1.17

DISTRIBUTION OF THE NUMBER OF VEHICLES OWNED OR LEASED BY THE TYPE OF ACCOMMODATION

	TOTAL	Type of Accommodation	
		Shared	Family Unit
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	40 100%	371 100%
Number of Vehicles:			
None	25.9	45.1	23.8
One	65.8	26.5	70.2
Two	7.5	21.6	6.0
Three	0.7	6.9	-
Average Number of Vehicles	0.82	0.90	0.82

NUMBER OF VEHICLES OWNED OR LEASED

DISTRIBUTED BY TOTAL INCOME OF THE HOUSEHOLD

(INCOME SPECIFIED ONLY AS OVER OR UNDER $8,000)

	TOTAL	Over $8,000	Under $8,000
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	39 100%	49 100%
Number of Vehicles:			
None	25.9	29.5	19.2
One	65.8	54.4	68.4
Two	7.5	16.2	12.3
Three	0.7	-	-
Average	0.83	0.87	0 93

Continued...

NUMBER OF VEHICLES OWNED OR LEASED

DISTRIBUTED BY TOTAL INCOME OF THE HOUSEHOLD

(Continued)

	Total Income of Household						
	Under $4,000	$4,000-$5,999	$6,000-$7,999	$8,000-$9,999	$10,000-$11,999	$12,000-$13,999	$14,000 & Over
ALL RESPONDENTS (Buildings of 100 Suites or More)	12*	45 100%	63 100%	54 100%	57 100%	20*	31 100%
Number of Vehicles:							
None	12	45.3	26.1	25.6	21.9	1	-
One	-	54.7	73.9	64.4	72.3	19	62.7
Two	-	-	-	10.1	5.8	-	28.3
Three	-	-	-	-	-	-	9.0
Average	-	0.55	0.74	0.85	0.84	0.95	1.46

*Frequency Count Only

NOTE: 39 respondents refused to specify their income even to over or under $8,000.

4. Is this vehicle parked on the premises (apartment property) when not in use?
5. Is it parked inside or outside?

PARKING ACCOMMODATION FOR VEHICLES OWNED OR LEASED BY APARTMENT TENANTS

	TOTAL	Subway	Central	Suburban
ALL VEHICLES	305 100%	77 100%	108 100%	119 100%
(Buildings of 100 Suites or More)				
Vehicles parked on apartment premises when not in use	100.0	100.0	100.0	100.0
Parked inside	74.0	98.7	82.0	51.7
Parked outside	26.0	1.3	18.0	48.3

4. Is this vehicle parked on the premises (apartment property) when not in use?

7. How much does it cost you for parking per month at your residence?

COST OF INDOOR PARKING

	TOTAL	Subway	Central	Suburban
ALL VEHICLES PARKED INSIDE (Buildings of 100 Suites or More)	228 100%	76 100%	91 100%	61 100%
Monthly Cost of Parking:				
Under $5	–	–	–	–
$5	4.9	–	7.7	6.8
$6 - $7	1.1	–	1.5	1.8
$8 - $9	11.4	–	11.3	25.7
$10	76.9	86.2	76.8	65.6
More than $10	5.7	13.8	2.7	2.1

4. Is this vehicle parked on the premises (apartment property) when not in use?

7. How much does it cost you for parking per month at your residence?

COST OF OUTDOOR PARKING

	TOTAL	Subway	Central	Suburban
ALL VEHICLES PARKED OUTSIDE (Buildings of 100 Suites or More)	80 100%	1*	20*	57 100%
Monthly Cost of Parking:				
Under $5.00	32.4	-	9	28.8
$5.00	61.5	-	9	69.5
$6.00 - $7.00	-	-	-	-
$8.00 - $9.00	1.2	1	-	-
$10.00	4.8	-	2	1.7
More than $10.00	-	-	-	-

*Frequency Count Only

8. What is your monthly apartment rent, excluding any parking costs?

DISTRIBUTION OF MONTHLY APARTMENT RENTALS

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
Monthly Rental:				
$100 - $109	2.3	3.9	1.9	1.2
$110 - $119	3.1	8.4	0.7	0.8
$120 - $129	6.8	5.7	5.5	9.2
$130 - $139	24.2	18.2	25.2	28.6
$140 - $149	17.6	16.1	18.9	17.5
$150 - $159	24.2	25.3	22.1	25.5
$160 - $169	6.4	4.1	8.4	6.1
$170 - $179	7.4	7.4	8.4	6.3
$180 - $189	4.3	5.9	3.8	3.5
$190 - $199	0.8	2.8	-	-
$200 and Over	3.7	4.5	5.1	1.4
Average Rental	$151	$153	$151	$148

DISTRIBUTION OF MONTHLY RENTALS

BY TYPE OF SUITE

		Type of Suite			
	TOTAL	Bachelor	One Bedroom	Two Bedroom	Three Bedroom or Larger
ALL RESPONDENTS	412 100%	33 100%	180 100%	167 100%	30 100%
(Buildings of 100 Suites or More)					
Monthly Rental:					
$100 - $109	2.3	20.4	1.3	-	-
$110 - $119	3.1	23.7	2.5	-	-
$120 - $129	6.8	6.5	12.6	1.8	-
$130 - $139	24.2	34.6	35.5	14.4	-
$140 - $149	17.6	-	20.7	19.7	7.2
$150 - $159	24.2	14.8	22.6	31.5	3.6
$160 - $169	6.4	-	2.8	10.1	13.8
$170 - $179	7.4	-	0.9	10.9	34.5
$180 - $189	4.3	-	0.9	6.7	15.8
$190 - $199	0.8	-	-	2.0	-
$200 and Over	3.7	-	-	4.5	25.0
Average Rental	$151	$126	$141	$160	$178

DISTRIBUTION OF MONTHLY RENTALS

BY TYPE OF ACCOMMODATION

	TOTAL	Type of Accommodation Shared	 Family Unit
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	40 100%	371 100%
Monthly Rental:			
$100 - $109	2.3	-	2.5
$110 - $119	3.1	-	3.4
$120 - $129	6.8	5.9	6.9
$130 - $139	24.2	-	26.9
$140 - $149	17.6	18.6	17.5
$150 - $159	24.2	25.5	24.0
$160 - $169	6.4	5.4	6.5
$170 - $179	7.4	18.9	6.1
$180 - $189	4.3	23.0	2.3
$190 - $199	0.8	4.2	0.5
$200 and Over	3.7	5.4	3.5
Average Rental	$151	$177	$148

DISTRIBUTION OF MONTHLY RENTALS

BY TOTAL INCOME OF HOUSEHOLD

(INCOME SPECIFIED ONLY AS OVER OR UNDER $8,000)

	TOTAL	Over $8,000	Under $8,000
ALL RESPONDENTS	412 100%	39 100%	49 100%
(Buildings of 100 Suites or More)			
Monthly Rental:			
$100 - $109	2.3	-	-
$110 - $119	3.1	-	-
$120 - $129	6.8	-	7.9
$130 - $139	24.2	26.2	22.7
$140 - $149	17.6	21.3	17.6
$150 - $159	24.2	29.2	19.6
$160 - $169	6.4	6.4	11.9
$170 - $179	7.4	16.9	9.5
$180 - $189	4.3	-	7.3
$190 - $199	0.8	-	-
$200 and Over	3.7	-	3.4

Continued...

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(Cont'd)

DISTRIBUTION OF MONTHLY RENTALS

BY TOTAL INCOME OF HOUSEHOLD

(Continued)

	Total Income of Household						
	Under $4,000	$4,000-$5,999	$6,000-$7,999	$8,000-$9,999	$10,000-$11,999	$12,000-$13,999	$14,000 & Over
ALL RESPONDENTS	11*	45 100%	63 100%	54 100%	57 100%	17*	31 100%
$100 - $109	3	8.3	3.8	-	-	-	-
$110 - $119	-	-	8.9	2.0	4.2	-	-
$120 - $129	1	11.3	7.8	-	13.7	4	-
$130 - $139	7	26.1	10.3	53.2	21.2	6	-
$140 - $149	-	25.7	35.7	10.8	13.7	2	7.1
$150 - $159	-	24.8	17.4	17.4	27.7	1	39.5
$160 - $169	-	3.7	2.7	5.1	6.3	2	5.5
$170 - $179	-	-	13.5	4.0	7.5	1	9.0
$180 - $189	-	-	-	-	2.5	-	30.2
$190 - $199	-	-	-	-	-	1	5.5
$200 and Over	-	-	-	7.5	3.3	-	12.2

* Frequency Count Only.

NOTE: 39 respondents refused to classify their income even to over or under $8,000.

12. From what you know, how many visitors' cars required parking space?

VISITOR PARKING REQUIREMENTS

THROUGH THE WEEKEND PEAK

FRIDAY

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
Before 6:00 p.m.	0.7	1.6	-	0.7
6:00 - 6:59 p.m.	3.2	5.7	2.7	0.7
7:00 - 7:59 p.m.	3.9	5.7	2.7	2.9
8:00 - 8:59 p.m.	7.3	7.3	6.7	5.8
9:00 - 9:59 p.m.	7.3	7.3	8.0	5.1
10:00 - 10:59 p.m.	7.1	7.3	8.0	5.1
11:00 - 11:59 p.m.	4.4	6.5	2.7	4.4
12:00 p.m. or Later	1.7	4.1	-	2.9

Continued...

12. From what you know, how many visitors' cars required parking space?

VISITOR PARKING REQUIREMENTS

THROUGH THE WEEKEND PEAK

SATURDAY

ALL RESPONDENTS (Buildings of 100 Suites or More)	TOTAL 412 100%	Subway 123 100%	Central 150 100%	Suburban 138 100%
Before 6:00 p.m.	4.6	4.9	5.3	2.8
6:00 - 6:59 p.m.	5.8	7.3	6.7	2.8
7:00 - 7:59 p.m.	6.8	8.1	7.3	3.6
8:00 - 8:59 p.m.	13.6	14.6	12.0	12.3
9:00 - 9:59 p.m.	13.8	14.6	13.3	13.7
10:00 - 10:59 p.m.	13.1	15.4	8.7	13.7
11:00 - 11:59 p.m.	9.5	11.4	4.0	12.3
12:00 p.m. or Later	3.6	-	2.0	8.6

NOTE: Includes 5 cars which required visitor parking all weekend.

Continued...

12. From what you know, how many visitors' cars required parking space?

VISITOR PARKING REQUIREMENTS

THROUGH THE WEEKEND PEAK

SUNDAY

	TOTAL	Subway	Central	Suburban
ALL RESPONDENTS (Buildings of 100 Suites or More)	412 100%	123 100%	150 100%	138 100%
Before 6:00 p.m.	10.4	6.5	16.0	8.7
6:00 - 6:59 p.m.	10.2	8.9	12.7	9.4
7:00 - 7:59 p.m.	9.7	7.3	14.7	7.2
8:00 - 8:59 p.m.	10.4	9.7	14.0	8.7
9:00 - 9:59 p.m.	7.5	4.1	12.0	8.0
10:00 - 10:59 p.m.	5.3	1.6	6.0	8.0
11:00 - 11:59 p.m.	0.7	-	-	2.9
12:00 p.m. or Later	0.5	-	-	1.5
Total arrivals before 6:00 p.m. highest possible requirement	14.3	13.0	17.3	12.3

13. Where did each car park?

PARKING ARRANGEMENTS FOR VISITORS' CARS

	TOTAL	Subway	Central	Suburban
ALL VISITOR VEHICLES	249 100%	87 100%	92 100%	70 100%
Parked on Premises	32.2	27.2	22.8	50.4
Parked on Nearby Street	61.1	70.3	69.7	38.5
Parked on Nearby Parking Lot	2.6	2.5	4.8	-
Other	2.0	-	-	7.1
Did Not State	2.1	-	2.7	4.0

15. What time did you start from home?

MORNING GENERATION OF TRIPS
BETWEEN 7 A.M. AND 9 A.M.
BY TEN MINUTE INTERVALS

	TOTAL	Subway	Central	Suburban
ALL MORNING GENERATED TRIPS BETWEEN 7 A.M. AND 9 A.M. (Buildings of 100 Suites or More)	546 100%	176 100%	182 100%	188 100%
Time Intervals:				
7:00 - 7:09 a.m.	11.2	11.1	5.6	17.0
7:10 - 7:19 a.m.	3.5	2.9	4.0	3.3
7:20 - 7:29 a.m.	0.4	1.2	-	-
7:30 - 7:39 a.m.	16.4	11.1	20.9	17.6
7:40 - 7:49 a.m.	4.6	4.7	5.6	3.3
7:50 - 7:59 a.m.	2.4	2.9	3.4	0.6
8:00 - 8:09 a.m.	20.8	22.2	26.0	15.4
8:10 - 8:19 a.m.	7.4	12.3	1.7	7.7
8:20 - 8:29 a.m.	4.6	2.9	5.1	5.5
8:30 - 8:39 a.m.	22.4	25.2	19.2	23.6
8:40 - 8:49 a.m.	1.1	-	1.7	1.1
8:50 - 9:00 a.m.	5.2	3.5	6.8	4.9

16. What method of transportation did you use?

MODE FOR GENERATED TRIPS

	TOTAL	Subway	Central	Suburban
ALL MORNING GENERATED TRIPS BETWEEN 7 A.M. AND 9 A.M. (Buildings of 100 Suites or More)	546 100%	176 100%	182 100%	188 100%
Mode of Transportation:				
Auto Driver	35.3	23.9	38.7	42.8
Auto Passenger	10.2	4.4	10.6	15.2
Public Transportation	39.9	55.4	36.6	28.6
Walk (only)	14.5	16.3	14.1	13.4

AVERAGE NUMBER OF MORNING TRIPS GENERATED BETWEEN 7 A.M. AND 9 A.M. BY TYPE OF SUITE

	TOTAL	Subway	Central	Suburban
ALL MORNING GENERATED TRIPS BETWEEN 7 A.M. AND 9 A.M. (Buildings of 100 Suites or More)	546	176	182	188
Type of Suite:				
Bachelor	0.79	0.91	0.50	-
One Bedroom	1.29	1.32	1.31	1.26
Two Bedroom	1.32	2.12	1.08	1.26
Three Bedroom or Larger	2.20	3.00*	2.08	2.39
Average	1.33	1.43	1.21	1.36

*1 apartment only

DISTRIBUTION OF THE NUMBER OF PEOPLE IN THOSE HOUSEHOLDS GENERATING MORNING TRIPS BETWEEN 7 A.M. AND 9 A.M.

	TOTAL	Subway	Central	Suburban
ALL MORNING GENERATED TRIPS BETWEEN 7 A.M. AND 9 A.M. (Building of 100 Suites or More)	546 100%	176 100%	182 100%	188 100%
One	9.8	16.8	11.3	1.8
Two	40.8	51.2	37.5	34.2
Three	27.1	19.9	29.9	31.0
Four	18.8	12.1	19.9	24.0
Five	2.3	-	1.4	5.4
Six	1.2	-	-	3.6

DISTRIBUTION OF THE NUMBER OF VEHICLES IN THOSE HOUSEHOLDS GENERATING MORNING TRIPS BETWEEN 7 A.M. AND 9 A.M.

	TOTAL	Subway	Central	Suburban
ALL MORNING GENRATED TRIPS BETWEEN 7 A.M. AND 9 A.M. (Buildings of 100 Suites or More)	546 100%	176 100%	182 100%	188 100%
Number of Vehicles:				
None	25.0	40.2	25.0	10.8
One	62.6	43.1	65.5	78.3
Two	10.3	10.4	9.5	10.9
Three	2.0	6.4	-	-

17. Did you or anyone else come to your apartment between 7 and 9 a.m.?
18. IF "YES" - What method of transportation did you use?

MORNING ATTRACTED TRIPS

BY MODE OF TRANSPORTATION EMPLOYED

(Frequency Count Only)

	TOTAL	Subway	Central	Suburban
ALL MORNING ATTRACTED TRIPS BETWEEN 7 A.M. AND 9 A.M. (Buildings of 100 Suites or More)	19	-	10	9
Mode of Transportation:				
Auto Driver	18	-	10	8
Auto Passenger	-	-	-	-
Public Transportation	-	-	-	-
Walk (Only)	1	-	-	1

19. What time did you arrive home?

AFTERNOON ATTRACTION OF TRIPS
BETWEEN 4 P.M. AND 6 P.M.
BY TEN MINUTE INTERVALS

	TOTAL	Subway	Central	Suburban
ALL AFTERNOON ATTRACTED TRIPS BETWEEN 4 P.M. AND 6 P.M. (Buildings of 100 Suites or More)	488 100%	143 100%	171 100%	173 100%
Time Intervals:				
4:00 - 4:09 p.m.	12.6	7.3	10.9	19.0
4:10 - 4:19 p.m.	3.1	1.5	1.8	5.4
4:20 - 4:29 p.m.	1.2	-	3.6	-
4:30 - 4:39 p.m.	10.3	7.3	15.1	8.3
4:40 - 4:49 p.m.	2.5	2.2	1.8	3.0
4:50 - 4:59 p.m.	0.4	1.5	-	-
5:00 - 5:09 p.m.	19.0	23.3	18.1	17.3
5:10 - 5:19 p.m.	5.6	5.1	5.4	5.4
5:20 - 5:29 p.m.	1.4	-	2.4	1.2
5:30 - 5:39 p.m.	21.4	21.2	20.4	22.5
5:40 - 5:49 p.m.	3.9	3.6	4.2	3.0
5:50 - 6:00 p.m.	18.6	27.0	16.3	14.9

20. What method of transportation did you use?

MODE OF TRANSPORTATION FOR
AFTERNOON ATTRACTED TRIPS BETWEEN 4 P.M. AND 6 P.M.

	TOTAL	Subway	Central	Suburban
ALL AFTERNOON ATTRACTED TRIPS BETWEEN 4 P.M. AND 6 P.M.	488 100%	143 100%	171 100%	173 100%
(Buildings of 100 Suites or More)				
Mode of Transportation:				
Auto Driver	37.7	26.2	36.6	44.6
Auto Passenger	9.3	3.9	10.3	12.7
Public Transportation	38.6	48.7	41.3	27.7
Walk (Only)	14.0	16.9	11.8	13.7
Did Not State	0.5	-	-	1.3

AVERAGE NUMBER OF AFTERNOON TRIPS
ATTRACTED BETWEEN 4 P.M. AND 6 P.M.
BY TYPE OF SUITE

	TOTAL	Subway	Central	Suburban
ALL AFTERNOON ATTRACTED TRIPS BETWEEN 4 P.M. AND 6 P.M. (Buildings of 100 Suites or More)	488	143	171	173
Type of Suite:				
Bachelor	0.61	0.83	0.13	–
One Bedroom	1.03	0.96	1.18	0.88
Two Bedroom	1.35	1.92	1.16	1.32
Three Bedroom or Larger	1.87	3.00*	1.64	2.06
Average	1.18	1.16	1.14	1.25

* 1 apartment only

DISTRIBUTION OF NUMBER OF PEOPLE IN THOSE HOUSEHOLDS ATTRACTING TRIPS BETWEEN 4 P.M. AND 6 P.M.

	TOTAL	Subway	Central	Suburban
ALL AFTERNOON ATTRACTED TRIPS BETWEEN 4 P.M. AND 6 P.M.	488 100%	143 100%	171 100%	173 100%
(Buildings of 100 Suites or More)				
Number of People in Households:				
One	9.7	15.6	12.5	1.9
Two	41.2	52.4	39.6	33.4
Three	26.8	19.5	28.4	31.1
Four	19.3	12.5	19.4	24.7
Five	2.1	-	-	5.9
Six	1.0	-	-	2.9

DISTRIBUTION OF NUMBER OF VEHICLES
IN HOUSEHOLDS ATTRACTING AFTERNOON TRIPS
BETWEEN 4 P.M. AND 6 P.M.

	TOTAL	Subway	Central	Suburban
ALL AFTERNOON ATTRACTED TRIPS BETWEEN 4.P.M. AND 6 P.M. (Buildings of 100 Suites or More)	488 100%	143 100%	171 100%	173 100%
Number of Vehicles:				
None	22.5	38.5	21.2	10.7
One	63.0	42.9	68.2	74.6
Two	12.1	10.8	10.6	14.7
Three	2.3	7.8	-	-

21. Did you go out again between 4:00 and 6:00 p.m.?

22. If "YES": What time was it?

AFTERNOON GENERATED TRIPS BETWEEN 4:00 P.M. AND 6:00 P.M. DISTRIBUTED BY HALF HOUR PERIODS

	TOTAL	Subway	Central	Suburban
ALL AFTERNOON GENERATED TRIPS BETWEEN 4:00 P.M. AND 6:00 P.M. (Buildings of 100 Suites or More)	60 100%	32 100%	6*	21*
4:00 - 4:29	17.4	13.7	-	6
4:30 - 5:00	14.3	15.5	-	3
5:01 - 5:29	24.7	22.4	3	3
5:30 - 6:00	43.6	48.4	3	9

* Frequency Count Only.

23. What method of transportation did you use?

AFTERNOON GENERATED TRIPS BETWEEN 4:00 P.M. AND 6:00 P.M. DISTRIBUTED BY MODE OF TRANSPORTATION

	TOTAL	Subway	Central	Suburban
ALL AFTERNOON GENERATED TRIPS BETWEEN 4:00 P.M. AND 6:00 P.M. (Buildings of 100 Suites or More)	60 100%	32 100%	6*	21*
Auto Driver	56.6	52.8	6	12
Auto Passenger	11.3	-	-	6
Public Transportation	14.3	18.0	3	2
Walk Only	17.9	29.2	3	1

* Frequency Count Only.

TENANT PARKING REQUIREMENTS

BY SIZE OF BUILDING

BY GEOGRAPHICAL LOCATION

Percentage Occupancy by Tenants of Vehicle Parking Spaces	Subway					
	Number of Suites					
	Under 50	51 - 75	76-100	101-150	151-200	200 or More
More than 130	-	-	-	-	-	-
126 - 130	-	-	-	-	-	-
121 - 125	-	-	-	-	-	-
116 - 120	-	1	-	-	-	-
111 - 115	1	-	-	-	-	-
106 - 110	-	-	-	-	-	-
101 - 105	-	-	-	-	-	2
96 - 100	1*	-	-	-	1	-
91 - 95	1	-	1	1	-	-
86 - 90	1	1	1*	-	-	-
81 - 85	-	-	-	-	1*	-
76 - 80	3	-	-	-	1	-
71 - 75	-	1	-	-	-	-
66 - 70	-	-	2	1	-	5*
61 - 65	-	1	1	-	1	2
56 - 60	-	1	1	-	1	1
51 - 55	-	1	-	-	1	2
46 - 50	-	-	2	1	2	3
41 - 45	-	-	-	-	-	3
40 or less	1	-	-	-	-	1

Continued...

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* Level at which 85% of the building requirements are accommodated (for 8 or more buildings).

T-44 (b)

TENANT PARKING REQUIREMENTS

BY SIZE OF BUILDING

BY GEOGRAPHICAL LOCATION

Percentage Occupancy by Tenants of Vehicle Parking Spaces	Central					
	Number of Suites					
	Under 50	51 – 75	76 – 100	101–150	151–200	200 or More
More than 130	1	–	1	–	–	1
126 – 130	–	–	–	1	–	–
121 – 125	1	1	–	–	–	–
116 – 120	3*	1	–	–	–	–
111 – 115	2	4*	3*	4*	2	–
106 – 110	–	2	1	3	–	3*
101 – 105	2	–	1	–	–	5
96 – 100	6	3	1	3	3*	3
91 – 95	–	3	–	–	3	–
86 – 90	3	1	1	1	–	2
81 – 85	3	–	3	2	–	1
76 – 80	–	–	–	1	–	–
71 – 75	–	2	–	1	–	–
66 – 70	1	–	1	1	1	–
61 – 65	–	–	–	1	–	–
56 – 60	–	–	–	1	2	–
51 – 55	–	1	1	–	–	–
46 – 50	1	3	2	–	–	1
41 – 45	–	1	1	1	–	1
40 or less	1	4	1	–	1	2

Continued ....

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*Level at which 85% of the building requirements are accommodated (for 8 or more buildings).

TENANT PARKING REQUIREMENTS

BY SIZE OF BUILDING

BY GEOGRAPHICAL LOCATION

Percentage Occupancy by Tenants of Vehicle Parking Spaces	Suburban					
	Number of Suites					
	Under 50	51 - 75	76-100	101-150	151-200	200 or More
More than 130	1	2	1	-	-	-
126 - 130	1	-	-	1	-	-
121 - 125	-	2	-	1	-	2
116 - 120	3	3*	-	1	-	-
111 - 115	2*	3	4*	3*	2	1*
106 - 110	2	6	3	5	1	3
101 - 105	3	5	1	4	3*	2
96 - 100	11	5	5	4	3	1
91 - 95	2	3	2	4	1	1
86 - 90	2	1	1	3	2	-
81 - 85	1	2	1	1	-	-
76 - 80	2	-	1	-	2	2
71 - 75	2	-	1	-	1	-
66 - 70	-	-	-	1	-	-
61 - 65	2	-	-	-	1	-
56 - 60	1	-	-	-	-	-
51 - 55	-	1	-	-	-	-
46 - 50	-	2	-	1	1	-
41 - 45	1	-	-	-	-	-
40 or less	-	-	1	2	-	1

*Level at which 85% of the building requirements are accommodated (for 8 or more buildings).

APPENDIX

RECON

APPENDIX I ...

ESTIMATES OF SAMPLING VARIABILITY

Let T be the total number of suites.

Let X_{ij} be the total of a measurement in building i (i =1,2,...,20) and sample j (j =1,2). The estimated total measurement

$$\hat{X} = \frac{T}{200} \sum_{i=1}^{20} \sum_{j=1}^{2} X_{ij} \qquad (1)$$

If for example the total number of cars belonging to one bedroom apartments is to be estimated, then, for example, $X_{13,2}$ is the total number of cars reported by one bedroom apartments, in sample 2 in the 13-th sample building; and in general X_{ij} is the total number of cars reported in sample j by one bedroom apartments in the i-th sample building. The corresponding sampling variability which I am interested in is

$$\text{Sampling variability of } \hat{X} = \sqrt{\sum_{i=1}^{20} \left(X_{i1} - X_{i2}\right)^2} \qquad (2)$$

If the summation in (1) and (2) is restricted to buildings in a geographic stratum (e.g. "close to transit" or "downtown") then the resulting estimated total and its sampling variability will refer to that stratum.

ESTIMATES OF SAMPLING VARIABILITY

(Continued)

I should emphasize that the term "sampling variability" in (2) above is used strictly for convenience. It is not equal to the sampling variability (two times the standard deviation) of X as computed from (1). Rather, one can estimate from the value of (2) what the sampling variability of the corresponding total as estimated eventually from the main study is likely to be (assuming that in the main study sampling will take place in all buildings, using a uniform sampling ratio and a systematic within-building sampling scheme as described above). The actual sampling variability expected under the main study is obtained from (2) by multiplying it by

$$\frac{2T}{\sqrt{200.n}} \qquad (3)$$

where n is the expected sample size in the main study (about 2000). The sampling variability under the main study is obtained from the restricted value of (2) (i.e. summation restricted to the buildings in the relevant stratum) by multiplying it by the appropriately modified value of (3) (i.e. T replaced by the total number of suites in that stratum, 200 replaced by the sample size in that stratum in the pilot study, n replaced by the sample size in that stratum in the main study). Clearly (2) and (3) together will enable us to predict the precision of estimates in the main study under various alternative allocations of the sample.

RECON LIMITED

RESEARCH CONSULTANTS

December 7th, 1967

Dear Sir or Madam:

Our firm is conducting a study for the Metropolitan Toronto Planning Board to investigate traffic and parking requirements at apartment buildings.

The information obtained will permit careful planning of adequate parking facilities.

Within the next few days, our interviewer will contact you with a few questions about your parking requirements and the trips taken by the members of your apartment. We would be most grateful for your co-operation.

Yours sincerely,

RECON RESEARCH CONSULTANTS LIMITED

J.R. Dadson

J.R. Dadson, Project Director

86 COLLIER STREET TORONTO 5 927-4616

METROPOLITAN TORONTO PLANNING BOARD

CITY HALL • TORONTO 1 • ONTARIO

TELEPHONE: 367-

C. J. LAURIN
Chairman

W. G. MESSER
Vice-Chairman

W. WRONSKI
Commissioner of Planning and Secretary-Treasurer

R. J. BOWER
Deputy Commissioner

October 23, 1967.

Dear Sir:

Re: Metropolitan Apartment Parking and Traffic Study

At its September 20th meeting, the Board approved the first phase of an apartment traffic and parking study at an estimated cost of $14,000. The major emphasis of this phase is placed upon a basic apartment inventory which is required to provide data on tenant parking demands in relation to various apartment characteristics. In addition, a detailed pilot interview survey of 200 apartment units will be carried out to provide an estimation of the traffic generation, attraction and visitor parking demands for the Metropolitan area as a whole.

The second stage, to be completed in 1968, will supplement the pilot interviews in order to provide more detailed data on the traffic generation and visitor parking demands.

The Toronto based market research firm of Recon Research Consultants Limited has been retained to undertake the study for this Board. Its first task will necessitate contact with each of the apartment building owners to determine for each building constructed since 1961 such information as the following:

1. Number of suites.
2. Size of suites.
3. Suite profile and rent.
4. Number of indoor and outdoor parking spaces provided.
5. Number of parking spaces rented to tenants.
6. Number of parking spaces rented to others.
7. Regulations governing visitor parking.

We appreciate that a substantial portion of the information is confidential and we will respect any of your wishes in this regard. Any published statistics will pertain to averages, percentages, trends, etc., only and will not relate to identifiable suites or apartments. We are writing specifically to request your co-operation in giving Mr. Brian Forrest access to such records as are appropriate for the compilation of the inventory.

This board is fully appreciative of the time and effort your co-operation will require and we request it only in the hope that the information gained from the study will be to our mutual benefit.

Yours truly,

(for) W. Wronski
Commissioner of Planning

RECON RESEARCH CONSULTANTS LIMITED PROJECT:67275

BUILDING SURVEY

FOR SAMPLING PURPOSES

Apartment Building Data: Building Serial# ________

Building Address: ________

IF AVAILABLE:

Borough ________ Assessment# ________

Census Tract ________ Block ________ Number of Stories ________ Assessment$ ________

Building Owner ________

Address: ________

Contact: ________ Telephone ________

Building Data Obtained From:

Records.......1 Owner or Agent......2 Superintendent........3

Data:	Number Units	Sq.ft. of Unit	Rent Range and Details
Bachelor			
One Bedroom			
Two Bedroom			
Three Bedroom			
Larger			
TOTAL		XXX	NOT REQUIRED

Parking Data:	Provided		Rented to Tenants	To Others
		Outdoor		
		Indoor		
		TOTAL		

What regulations do you have to control visitor parking? ________

Sample Selected

Sample Details	Suite Identification	Present Tenant(s)	Telephone

TENANT QUESTIONNAIRE

BUILDING #______ TENANT:______________________ TELEPHONE:____________

CONTACT 1 2 3 4 5 6 7 8 9 0 Contacted Day:________ Date:________

Hello, I'm____________of Recon Research Consultants Limited. I am conducting a parking and transportation survey for the Metropolitan Toronto Planning Board, and I would like to ask you a few questions. Before we start, I'd like to assure you that all replies are confidential and the data will only be used in group form.

Household Data: From Sample, Apartment Is:____________

1. First, what type of apartment is this?

BACHELOR....................1
ONE BEDROOM 2
TWO BEDROOM 3
THREE BEDROOM OR LARGER....4

INTERVIEWER RESOLVE DISCREPANCY BEFORE CONTINUING

2.(a) How many people, including yourself, live in your household? ________

(b) How many are males, 18 or over? ________

How many are females 18 or over? ________

How many are children under 6? ________

6 to 13? ________

13 to 17? ________

________ CHECK TOTAL WITH 2.(a)

(c) In total how many persons are working FULL TIME________ PART TIME________

(d) Is this shared accommodation or are you all one family?

SHARED.....1
FAMILY.....2

(e) Now considering all working members of this household would the total income of this apartment be:

UNDER $4,000...........1
$4,000 to $5,999........2
$6,000 to $7,999........3
$8,000 to $9,999........4
$10,000 to $11,999......5
$12,000 to $13,999......6
$14,000 or OVER.........7

IF REFUSED TO STATE ASK: Would it be over or under $8,000? OVER.....1 UNDER.....2

3. How many vehicles (including both cars and trucks) are owned or leased and driven by members of your household?

____

IF NO VEHICLES OWNED OR LEASED, GO TO QUESTION 8.

ASK FOR EACH VEHICLE OWNED OR LEASED:

4.	**Vehicle 1** Is this vehicle parked on the premises (apartment property) when not in use?	**Vehicle 2** Is this vehicle parked on the premises (apartment property) when not in use?	**Vehicle 3** Is this vehicle parked on the premises (apartment property) when not in use?
	NO.....2 YES.....1	NO.....2 YES.....1	NO.....2 YES.....1
5.	Is it parked inside or outside? INSIDE......1 OUTSIDE.....2	Is it parked inside or outside? INSIDE......1 OUTSIDE.....2	Is it parked inside or outside? INSIDE......1 OUTSIDE.....2
6.	Where do you usually park it? ON THE STREET............1 ON PRIVATE PARKING LOT...2 IN PRIVATE GARAGE........3 OTHER(SPECIFY)__________4	Where do you usually park it? ON THE STREET............1 ON PRIVATE PARKING LOT...2 IN PRIVATE GARAGE........3 OTHER(SPECIFY)__________4	Where do you usually park it? ON THE STREET......... 1 ON PRIVATE PARKING LOT...2 IN PRIVATE GARAGE........3 OTHER(SPECIFY)__________4

ASK ALL VEHICLE OWNERS:

7. How much does it cost you for parking per month at your residence?

Vehicle No.1__________

Vehicle No.2__________

Vehicle No.3__________

ASK EVERYONE:

8. What is your monthly apartment rent, excluding any parking costs? __________

Visitor Parking:

9. Was your apartment visited by friends or relatives last weekend, from Friday to Sunday?

YES......1 NO......2 -- IF "NO", SKIP TO SECTION "TRIP DATA"

10. What day was that?	DAY __________	DAY __________	DAY __________
	DATE__________	DATE__________	DATE__________
11.(a) What time(s) did they arrive?	__________ __________ __________	__________ __________ __________	__________ __________ __________
(b) What time(s) did they leave?	__________ __________ __________	__________ __________ __________	__________ __________ __________

12. From what you know,
how many visitors' cars
required parking space? ______________ ______________ ______________

13. Where did each car park?	CAR NO.	1	2	3	CAR NO.	1	2	3	CAR NO.	1	2	3
- on premises		1	1	1		1	1	1		1	1	1
- on nearby street		2	2	2		2	2	2		2	2	2
- on nearby parking lot		3	3	3		3	3	3		3	3	3
- other (specify)______________		4	4	4	___________	4	4	4	___________	4	4	4

Trip Data:

Now, I'd like to ask about trips that members of your household made yesterday, either leaving your apartment building between 7:00 a.m. - 9:00 a.m. or arriving back at your building between 4:00 p.m. - 6:00 p.m.

OBTAIN THE FOLLOWING DATA FOR EACH HOUSEHOLD MEMBER WHO MADE TRIPS YESTERDAY. IT IS NOT NECESSARY TO QUESTION EACH TRIP-TAKER. ONE ADULT MEMBER MAY ANSWER FOR ALL HOUSEHOLD MEMBERS. (NEXT PAGE)

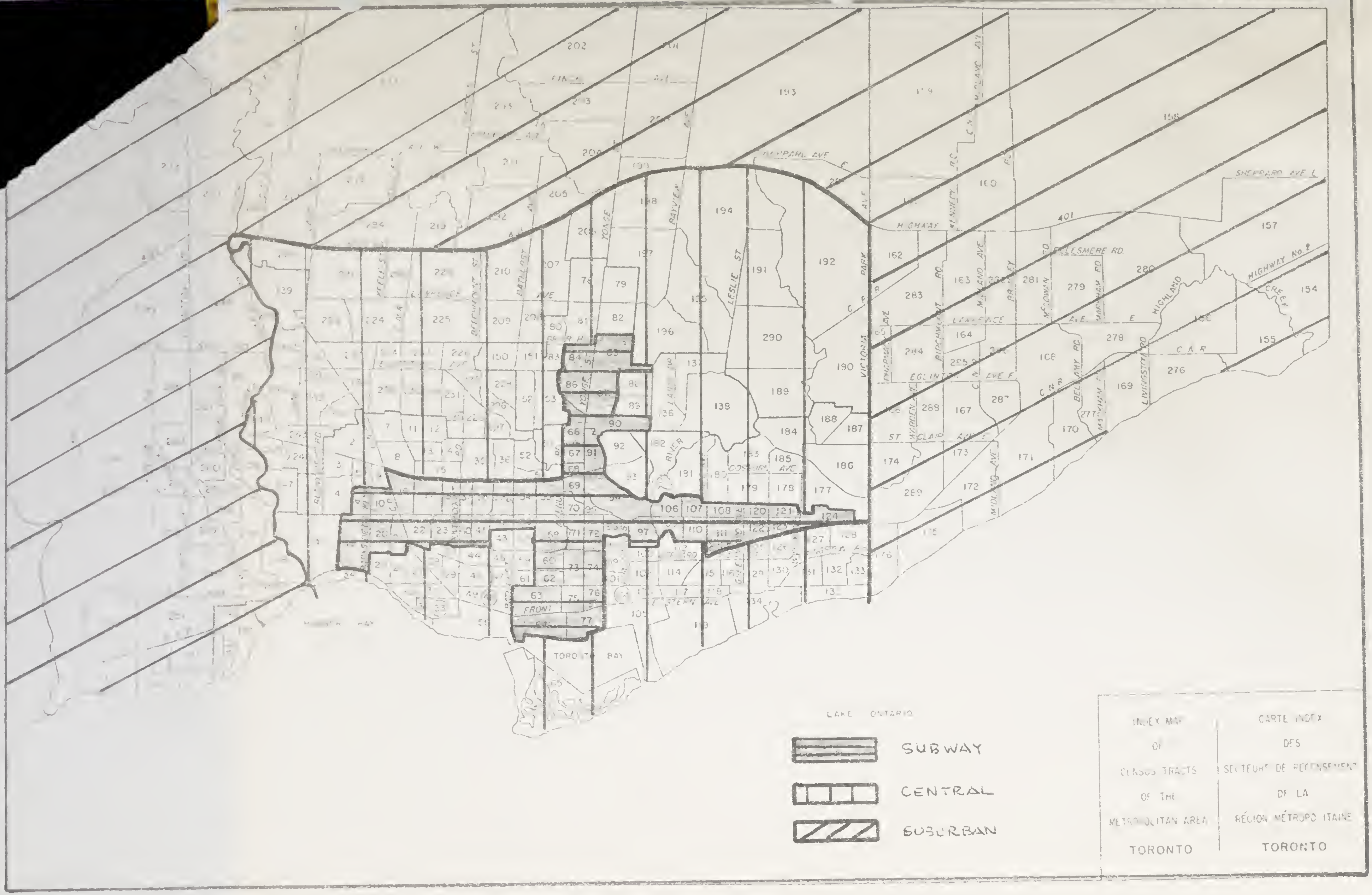
14.	Person Number	No.________	No.________	No.________	No.________

ORNING TRIPS

15.	What time did you start from home?	______a.m.	______a.m.	______a.m.	______a.m.
16.	What method of transportation did you use?	AUTO DRIVER..........1 AUTO PASSENGER.......2 PUBLIC TRANSPORTATION..............3 WALK ONLY...........4	1 2 3 4	1 2 2 3 4	1 2 3 4
17.	Did you or anyone else come to your apartment between 7:00 and 9:00 a.m.?	YES...........1 NO............2	YES......1 NO.......2	YES......1 NO.......2	YES......1 NO.......2
18.	IF"YES": What method of transportation did you use?	AUTO DRIVER..........1 AUTO PASSENGER.......2 PUBLIC TRANSPORTATION..............3 WALK ONLY...........4	1 2 3 4	1 2 3 4	1 2 3 4

EVENING TRIPS

19.	What time did you arrive home?	______p.m.	______p.m.	______p.m.	______p.m.
20.	What method of transportation did you use?	AUTO DRIVER..........1 AUTO PASSENGER.......2 PUBLIC TRANSPORTATION..............3 WALK ONLY...........4	1 2 3 4	1 2 3 4	1 2 3 4
21.	Did you go out again between 4:00 and 6:00 pm.?	YES...........1 NO............2	YES......1 NO.......2	YES......1 NO.......2	YES......1 NO.......2
22.	IF"YES": What time was it?	______p.m.	______p.m.	______p.m.	______p.m.
23.	What method of transportation did you use?	AUTO DRIVER..........1 AUTO PASSENGER.......2 PUBLIC TRANSPORTATION..............3 WALK ONLY...........4	1 2 3 4	1 2 3 4	1 2 3 4



INDEX MAP OF CENSUS TRACTS OF THE METROPOLITAN AREA TORONTO

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